

New Deep Water Mollusks from the Gulf of California

by

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(Plate 4, Figures 1 to 10)

The Ariel Expedition in the Gulf of California during late August and early September 1960 provided collectors of the Conchological Club of Southern California an opportunity to secure first hand deep water shells seldom seen in private collections.

Although all of the material is not yet worked up, it can be safely estimated that 12 to 15 new species were obtained. Several papers dealing with new species are now in preparation by other members of the expedition.

It was discovered during the preparation of this paper that some of the museum collections on our west coast already had specimens of some of the species described below, either unnamed or confused with similar species. Dr. Leo Hertlein generously provided me with material from the California Academy of Sciences collection which greatly assisted in describing some of these species.

In addition to Dr. Hertlein, I wish to thank Dr. A. Myra Keen for her suggestions in the preparation of this manuscript, Dr. G. Bruce Campbell, Joe and Helen DuShane, Dr. Homer King, and Captain Xavier Mendoza for the loan of specimens, John Q. and Rose Burch for their encouragement and the privilege of spending many hours in their fine library, and last but not least my wife, Ruth. The photography is by Elwyn Spaulding.

Emarginula velascoensis SHASKY, spec. nov.

(Plate 4, Figures 1 to 3)

Shell small, oval, white; anterior slope strongly convex; posterior slope concave below apex; apex small, of one and one-half whorls, placed about two-thirds of the way down the shell; radial sculpture of approximately 24 primary ribs and numerous secondary ribs which intersect with concentric cords to form square pits; concentric cords become increasingly stronger toward the periphery so that they are of nearly equal strength with the primary axial ribs at the margin; fissure narrow, about one-sixth the length of the anterior slope; anal fasciole laminated, with lamellae about equal in number to the concentric cords; fasciole marked internally by a tiny ridge; interior of shell probably glossy in living specimens; measurements of holotype: length 3.9 mm., width 2.8 mm., height 2.1 mm.; measurements of paratype: length 5.3 mm., width 3.7 mm., height 2.7 mm.

Holotype: Stanford University Paleontological Type Collection No. 8'619

Paratype: Shasky Collection

Type locality: in 40-80 fathoms, off the southwest end of Isla Montserrat, Gulf of California, Lat. 25°39'N.; Long. 111°05'W., September 1, 1960. Ariel Expedition

Explanation of Plate 4

Figure 1: *Emarginula velascoensis* SHASKY, spec. nov. Dorsal view of holotype; x 4.5. Figure 2: Same specimen, ventral view; x 4.5. Figure 3: Sideview of paratype; x 2.5. Figure 4: *Cancellaria strongi* SHASKY, spec. nov. Holotype, x 2. Figure 5: *Trigonostoma campbelli* SHASKY, spec. nov. Holotype, x 2. Figure 6: *Trigonostoma funiculatum* (HINDS). Guaymas, Sonora, Mexico; x 1.5. Figures 7 and 8: *Arielia mitriformis* SHASKY, spec. nov. Holotype, x 2. Figure 9: Paratype, x 2. Figure 10: *Clathrodrillia bicarinata* SHASKY, spec. nov. Holotype, slightly enlarged. Figure 11: *Diodora pusilla* BERRY. Montserrat Island, Baja California, Mexico. x 2.5. Figure 12: *Thyca callista* BERRY. Pt. Diablo, Baja California, Mexico. x 2. Figures 13 and 14: *Sinum grayi* (DESHAYES). Gulf of Fonseca, El Salvador. x 1. Figure 15: *Turitella sanguinea* REEVE. Guaymas, Sonora, Mexico. x 2.5. Figure 16: *Cantharus biliratus* (REEVE). Montserrat Island, Baja California, Mexico. x 2.



Figure 1



Figure 2

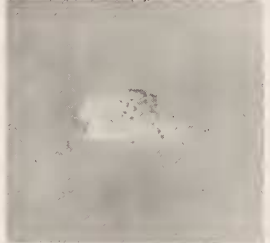


Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13



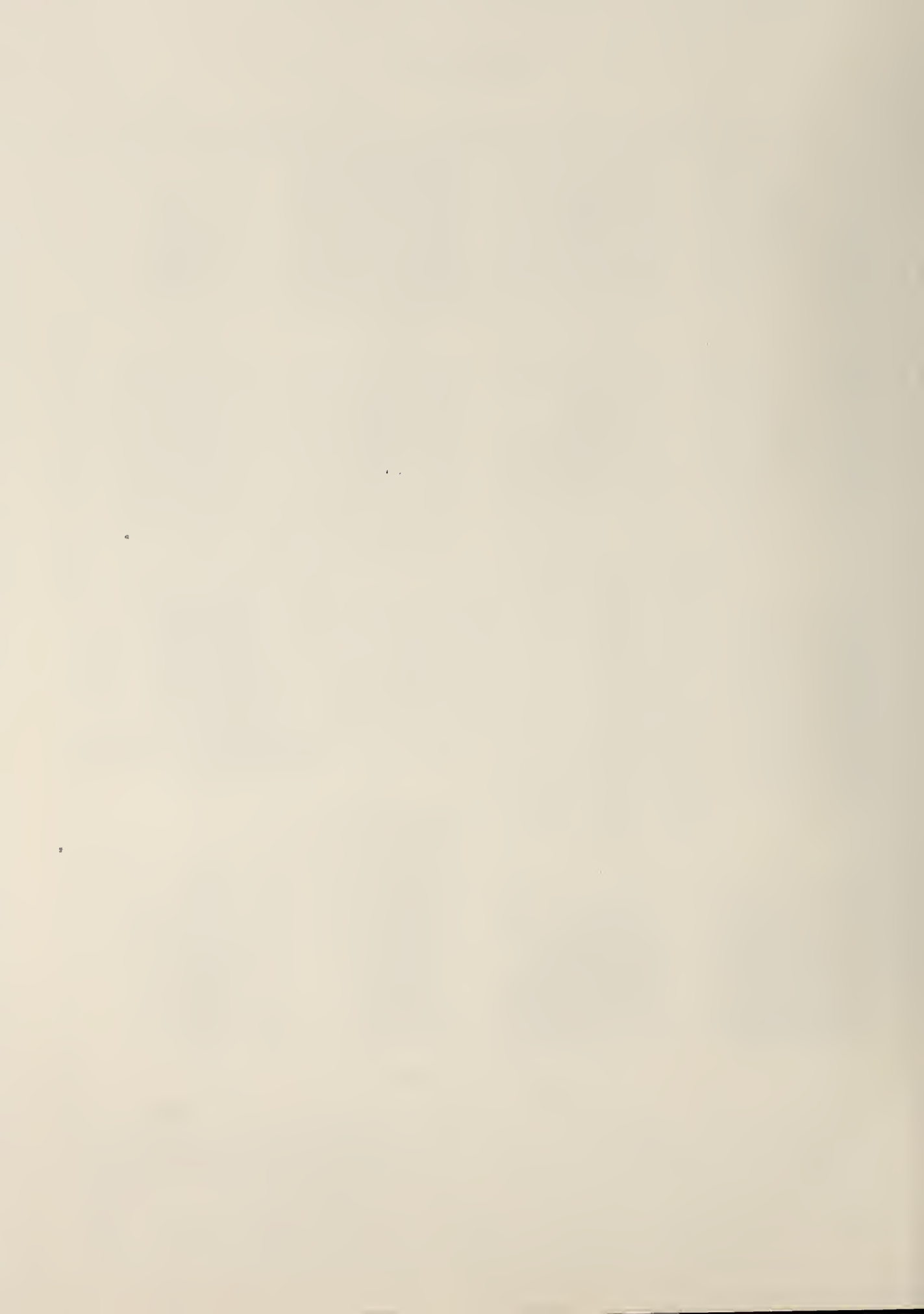
Figure 14



Figure 15



Figure 16



Comparison and Discussion: This species is closest to Emarginula phrixodes Dall, 1927, from the tropical Western Atlantic. E. velascoensis differs in having a longer, narrower fissure, fewer radial ribs, and proportionally fewer lamellae of the anal fasciole. It should be noted, however, that Dall apparently recorded the number of primary axial ribs of a single sagittal diameter, while the number of primary ribs described for E. velascoensis is the total at the circumference.

I take pleasure in naming the first tropical Eastern Pacific representative of the genus for Señor Miguel Velasco Pechir of the Mexican Fish Commission. When the permits for the Ariel Expedition seemed impossible to obtain, his intervention and help turned a very dark hour into a most rewarding week.

Cancellaria strongi SHASKY, spec. nov.

(Plate 4, Figure 4)

Shell small, olive brown, with a slightly darker, thin, somewhat scaly periostracum, which is tufted at the shoulder where the axial and spiral sculpture intersect; whorls, including nucleus, eight; nucleus smooth, blunt, polished, of one and one-half whorls; subsequent whorls strongly shouldered and tabulate; axial ribs stronger than the spiral cords; axial ribs 12 to 13 forming prominent nodes at the intersections with the spiral cords; shoulder nodes spinose; spiral cords between the shoulder and the suture much weaker than those on the whorl; aperture subtrigonal; white in the adult, brown in immature specimens; outer lip thickened, with about 14 lirations in fully mature individuals; inner lip thinly calloused and somewhat reflected back over a small umbilicus; columella bent toward outer lip; columellar plaits three, the inferior the strongest; canal short; length of holotype 17.7 mm.; maximum diameter 10.7 mm.

Holotype: California Academy of Sciences Paleontology Type Collection, No. 12'348

Hypotypes: Stanford University Paleontological Type Collection, Conchological Collection of the San Diego Natural History Museum, Campbell collection, DuShane collection, King collection, Schowalter collection, Mendoza collection, and Shasky collection

Type locality: in 33-55 fathoms, off Point

Arena, Baja California. Crocker-Beebe Expedition, 1936.

Hypotype stations:

1. in 20-55 fathoms, off Cabo Haro, Guaymas, Sonora, Mexico, Lat. 27°50' N., Long. 110°55' W., December 27 and 31, 1959. Collectors — B. Campbell, X. Mendoza, T. Schowalter, D. Shasky, and I. Thompson
2. in 20-40 fathoms, off Montserrat Island, Gulf of California, Lat. 25°35' N.; Long. 111°05' W., September 1, 1960. Ariel Expedition
3. in 50-90 fathoms, off Partida and Espíritu Santo Islands, Gulf of California, Lat. 24°32' N.; Long. 110°26' W., August 30 and 31, 1960. Ariel Expedition

Comparison and discussion: Of the known West American species this is closest to Cancellaria (Admete?) californica Dall, 1908, from which it differs in having fewer axial ribs, stronger shoulders, a narrower umbilicus, a pronounced tufting of the periostracum, and a definite canal.

Since a comparison of Cancellaria strongi with the figure of C. elata Hinds, 1843, might lead to some confusion, mention should also be made of this species. Cancellaria elata was described from a single dead specimen dredged in Panama Bay and has not been reported subsequently. Cancellaria strongi would seem to differ in being chunkier, lacking the fine spiral sculpture, having fainter columellar plaits and a straight canal. Hinds failed to mention a periostracum and it is assumed that if one were present in living individuals, it was eroded away in his specimen.

It would appear that Cancellaria californica and C. strongi belong to a subgenus, not yet described, that is intermediate between Admete and Trigonostoma. As Dall pointed out in the discussion of C. californica, "It has the aspect of an Admete, in spite of the presence of an umbilicus, but is perhaps only a delicate form of Trigonostoma."

That these two species do not belong in the genus Admete seems certain. Their relationship to Trigonostoma remains to be evaluated.

This species is named in honor of the late A. M. Strong, who recognized it as a new species but failed to provide a name and complete description. The holotype was mentioned in his notes on Cancellariidae, published after his death, as Cancellaria (Cancellaria) sp.